

IN THE CLAIMS

1. (Previously Presented)A water vapour barrier comprising

a first water impervious membrane having a plurality of first through openings defined therein,

a second water impervious membrane arranged opposite to the first water impervious membrane,

a water absorbing material arranged within one or more spaces defined between the first and second membranes, and

wherein at least a part of said second water impervious membrane comprises a material having a water vapour diffusion resistance, which varies with the relative humidity of air in contact therewith, such that the water vapour diffusion resistance is reduced when the relative humidity of air increases, and is increased when the relative humidity of air decreases.

2. (Previously Presented)A water vapour barrier according to claim 1, wherein a plurality of second through openings are formed in said second water impervious membrane, and wherein each of said spaces interconnect said first through openings and said second through openings.

3. (Previously Presented)A water vapour barrier according to claim 2, wherein the first through openings are offset relative to said second through openings.

4. (Previously Presented)A water vapour barrier according to claim 1, wherein the first water impervious membrane is substantially impervious to water vapour.

5. (Previously Presented)A water vapour barrier according to claim 1, wherein the first and second water impervious membranes are connected to opposite sides of said water absorbing material, which forms an intermediate layer.
6. (Previously Presented)A water vapour barrier according to claim 5, wherein either the second through openings cover a substantially larger area of the surface of the water absorbing material than the first through openings, whereby the vapour transport in the water vapour barrier in a direction from the second water impervious membrane to the first water impervious membrane is predominant, or the first through openings cover a substantially larger area of the surface of the water absorbing material than the second through openings, whereby the vapour transport in the water vapour barrier in a direction from the first water impervious membrane to the second water impervious membrane is predominant.
7. (Previously Presented)A water vapour barrier according to claim 5, wherein the thickness of the intermediate layer of water absorbing material is 0.2 to 1.5 mm.
8. (Previously Presented)A water vapour barrier according to claim 5, wherein the intermediate layer of water absorbing material comprises a fibrous plastic material including fibres having a hydrophobic fibre core.
9. (Previously Presented)A water vapour barrier according to claim 1, wherein the water vapour diffusion resistance of the first water impervious membrane is equivalent to 10-100 m air column at any relative humidity of air in contact therewith.

10. (Previously Presented)A water vapour barrier according to claim 1, wherein the first water impervious membrane is a film or foil.

11. (Previously Presented)A water vapour barrier according to claim 1, wherein the first water impervious membrane comprises a plastic or metallic material.

12. (Previously Presented)A water vapour barrier according to claim 11, wherein the first water impervious membrane comprises polyethylene or polypropylene.

13. (Previously Presented)A water vapour barrier according to claim 12, wherein the first water impervious membrane comprises a polyethylene film having a weight of 20 to 100 g/m².

14. (Previously Presented)A water vapour barrier according to claim 1, wherein the water vapour diffusion resistance of the second water impervious membrane is equivalent to at least 2 m air column at a relative humidity of 20 to 50% and less than 1 m air column at a relative humidity of 60 to 100% of air in contact with the second water impervious membrane.

15. (Previously Presented)A water vapour barrier according to claim 14, wherein the water vapour diffusion resistance of the second water impervious membrane is equivalent to at least 5 m air column at a relative humidity of 20 to 50%.

16. (Previously Presented)A water vapour barrier according to claim 14, wherein the water vapour diffusion resistance of the second water impervious membrane is equivalent to less than 0.5 m air column, at a relative humidity of 60 to 100% of air in contact with the second water impervious membrane.

17. (Previously Presented)A water vapour barrier according to claim 1, wherein said at least part of the second water impervious membrane is made from at least one material comprising at least one of polyamide, ethylene-vinyl alcohol-copolymer, polyvinyl alcohol, polyurethane, protein derivatives, methyl cellulose, cellophane, linseed oil alkyd, and bone glue.

18. (Previously Presented)A water vapour barrier according to claim 1, further comprising a moisture distributing outer layer of water absorbing material, which is connected to the outer surface of said first water impervious membrane or the second water impervious membrane.

19. (Previously Presented)A water vapour barrier according to claim 18, wherein the outer layer of water absorbing material is a fibrous, felt-like material.

20. (Previously Presented)A water vapour barrier according to claim 19, wherein the thickness of the outer layer of water absorbing material is less than 0.5 mm.

21. (Previously Presented)A water vapour barrier according to claim 1, wherein the first water impervious membrane is formed by mutually parallel, transversely spaced first bands, the first through openings being defined between adjacent first bands.

22. (Previously Presented)A water vapour barrier according to claim 1, wherein the second water impervious membrane is formed by mutually parallel, transversely spaced second bands, the second through openings being defined between adjacent second bands.

23. (Previously Presented)A water vapour barrier according to claim 2, wherein the minimum spacing between the first through openings and the second through openings defined in the first and second water impervious membranes, respectively, is about 20 mm.

24. (Previously Presented)A water vapour barrier according to claim 22, wherein each of said second bands has a width exceeding the width of a corresponding space between adjacent first bands and overlaps said space and adjacent rim portions of said adjacent first bands.

25. (Previously Presented)A water vapour barrier according to claim 24, wherein the maximum transverse overlap of the rim portions of the adjacent first bands is 100 mm.

26. (Previously Presented)A water vapour barrier according to claim 25, wherein the maximum transverse overlap is 70 mm.

27. (Previously Presented)A water vapour barrier according to claim 21, having the form of a web-like material, wherein the first through openings are parallel to the second through openings, and the first through openings and the second through openings extend in a longitudinal direction of the web-like material.

28. (Previously Presented)A method of making a water vapour barrier, said method comprising forming an elongated layer of water absorbing, fibrous material, applying to a first side surface of the layer of water absorbing, fibrous material a plurality of transversely spaced, parallel first bands of a first, water impervious membrane material, and applying to an opposite, second side surface of the layer of water absorbing, fibrous material a plurality of transversely spaced, parallel second bands, at least some of which are comprised of a second membrane material, said second membrane material having a water vapour diffusion resistance, which varies with the relative moisture of air in contact therewith, each of said second bands having a width exceeding the width of a corresponding space between adjacent first bands, said second bands being applied so as to overlap said space and adjacent rim portions of said adjacent first bands.

29. (Previously Presented)A method according to claim 28, wherein said first water impervious membrane material is substantially impervious to water vapour.

30. (Previously Presented)A method according to claim 28, wherein at least some of said first and second bands comprise films or foils which are adhered to the side surfaces of the layer of water absorbing fibrous material.

31. (Previously Presented)A method according to claim 29, wherein the first bands are comprised of polyethylene films or foils which are connected to thermoplastic fibers of the layer of water absorbing fibrous material by heating and fusing.

32. (Previously Presented)A method according to claim 28, wherein at least some of the second bands are fastened to the layer of water absorbing, fibrous material by means of an adhesive.

33. (Previously Presented)A method according to claim 32, wherein net-like bands of a polymer glue are interposed between said second bands and the layer of water absorbing, fibrous material.

34. (Previously Presented)A water vapour barrier according to claim 12, wherein the first water impervious membrane comprises a polyethylene film having a weight of 30 to 80 g/m.

35. (Previously Presented)A water vapour barrier according to claim 14, wherein the water vapour diffusion resistance of the second water impervious membrane is equivalent to about 0.1 mm or less at a relative humidity of 60 to 100% of air in contact with the second water impervious membrane.

36. (Previously Presented)A water vapour barrier according to claim 19, wherein the thickness of the outer layer of water absorbing material is about 0.1 mm.

37. (Previously Presented)A water vapour barrier according to claim 21, wherein the first through openings and the second through openings are band shaped.

38. (New) The water vapour barrier of claim 1, wherein only one of the first water impervious membrane and the second water impervious membrane comprises a material having a water diffusion resistance which varies with the relative humidity of air in contact therewith.

39. (New) The water vapour barrier of claim 28, wherein only one of the first water impervious membrane and the second water impervious membrane comprises a material having a water diffusion resistance which varies with the relative humidity of air in contact therewith.